Question Paper
ANMC Mock Test Class 7 - Algebra (Paper 1)

Exam ID : TEST/2024/01/05134208 Report Generation Date : 3/26/2024 3:00:14 PM

Q1: If a + 1/a - 4 = 0 then a2 + 1/a2 is:

A: 14

B: 18

C: 16

D: 15

Answer: A

Q2: If a = 26, b = 27 and c = 29 then find a3 + b3 + c3 - 3abc.

A: 536

B: 438

C: 648

D: 574

Answer: D

Q3: If (a-b) = 4, (b-c) = 7 and (c-a) = 3 then the value of (a3+b3+c3-3abc)/(a+b+c) is:

A: 37

B: 74

C: 46

D: 84

Answer: A

Q4: If a + b + c = 4 and a2 + b2 + c2 = 10 and 1/a + 1/b + 1/c = 1 then find abc.

A: 5

B: 3

C: 4

D: 6

Answer: B

Q5: If (x - y) = 5 then what is the value of (x -11)3 - (y - 6)3?

A: 293

B: 124

C: 0

D: 525

Answer: C

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Q6: If x = -5, y = -3, then the value of x3 - 3x2 + 3x + 3y + 3y2 + y3 is:

A: 224

B: -224

C: 230

D: -230

Answer: B

Q7: If x = (0.04)2, y = 1/(0.04)2 and z = (1 - 0.04)2, then out of the following, the true relation is:

A: y < x < z

B: z < x < y

C: x < z < y

D: y < z < x

Answer: C

Q8: If x2 + 6x + 1 = 0, then find x2 + 1/x2

A: 34

B: 36

C: 38

D: 40

Answer: A

Q9: If a = 35, b = 37 and c = 40 then find a3 + b3 + c3 - 3abc - 2121

A: 7

B: 0

C: 4

D: 5

Answer: A

Q10: If a + b + c = 5 and a2 + b2 + c2 = 12 and 1/a + 1/b + 1/c = 3 then find abc.

A: 12/5

B: 15/7

C: 13/6

D: 16/7

Answer: C

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Q11: If (p - q) = 7 then what is the value of (p - 24)3 - (q - 17)3?

A: 0

B: 1

C: -3

D: -1

Answer: A

Q12: If x2 + 3x - 1 = 0, then find x2 + 1/x2

A: 14

B: 10

C: 15

D: 11

Answer: D

Q13: If x – 1/x = 3 then find the value of x3 + 1/x3 - 5(13)1/2

A: 4(13)1/2

B: (13)1/2

C: 13

D: 5(13)1/2

Answer: D

Q14: If x1/2 + 1/x1/2 = 2 then find the value of 6x2 + 1/6x2

A: 37/6

B: 6

C: 35/6

D: 31/6

Answer: A

Q15: Solve: 524 – 124(53 + 1) (56 + 1) (512 + 1) + 5

A: 1

B: 5

C: 6

D: 0

Answer: C

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Q16: If x = (151/2 + 141/2)/(151/2 - 141/2) and y = (151/2 - 141/2)/(151/2 + 141/2) then find the value of 3x2 – xy + 3y2

A: 10092

B: 10084

C: 10090

D: 10085

Answer: D

Q17: If 81a4 + 225a2b2 + 625b4 = 85 and 9a2 + 15ab + 25b2 = 17 then find the value of 3a+5b.

A: 241/2

B: 251/2

C: 261/2

D: 231/2

Answer: D

Q18: If (a – b – 5)2 + (c – a – 6)2 = 0 then find the value of c – b:

A: 15

B: 10

C: 11

D: 13

Answer: C

Q19: If [16(2)1/2 x3 + 81(3)1/2 y3] ÷ [2(2)1/2 x + 3(3)1/2 y] = (Ax2 + By2 + Cxy) then find the value of 5A - 3B - C(6)1/2

A: 8

B: -5

C: -2

D: 6

Answer: B

Q20: Simplify: (a + b)3 + (a – b)3 -2a3- 5ab2

A: ab

B: ab3

C: ab2

D: a2b

Answer: C

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Q21: If x + 1/x = 5 then find the value of x3 + 1/x3 – 100

A: 10

B: 12

C: 8

D: 6

Answer: A

Q22: If a3 + b3 = 45 and a + b = 3 then find the value of a2 + b2

A: 13

B: 16

C: 15

D: 12

Answer: A

Q23: If (a – 7b – 2)2 + (3c – a – 8)2 = 0 then find the value of 3c – 7b:

A: 15

B: 10

C: 12

D: 8

Answer: B

Q24: If x4 + x–4 = 47 then find the value of (x – x–1)

A: 0

B: 5

C: 1

D: (5)1/2

Answer: D

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Q25: If a2 + b2 + c2 = 112 and ab + bc + ca = 16 then find the value of:
(1/2)(a + b + c)[(a – b)2 + (b – c)2 + (c – a)2]

A: 1152

B: 1154

C: 1156

D: 1150

Answer: A

Q26: If 4x+3y = 6 and 64x3+27y3 = 648 then the value of the product of x and y is:

A: 6

B: 2

C: – 2

D: – 6

Answer: C

Q27: If a – 3b = –3, then the value of (a3 – 27b3 + 27ab) is:

A: 27

B: – 24

C: 24

D: – 27

Answer: D

Q28: If a + b + c = 6 and a2 + b2 + c2 = 12 and 1/a + 1/b + 1/c = 2 then find 5abc.

A: 25

B: 40

C: 20

D: 30

Answer: D

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Q29: If x + 1/x = 3 then the value of (x2–3x+1)/(x2+5x+1) is:

A: 1

B: 0

C: 2

D: 1.5

Answer: B

Q30: If a3 – b3 = 48 and a – b = 6, then the value of (a2+b2+ab) is:

A: 12

B: 8

C: 10

D: 7

Answer: B